

Laboratory Techniques in Experimental Biosciences

Programme course

7.5 credits

Laborativa tekniker för experimentell biovetenskap

8MEA06

Valid from: 2020 Autumn semester

Determined by

The Board for First and Second Cycle
Programmes at the Faculty of Health
Sciences

Date determined

2012-12-07

Revision date

2014-10-06

Main field of study

Medical Biology

Course level

Second cycle

Advancement level

A1X

Course offered for

- Master's Programme in Experimental and Medical Biosciences

Entry requirements

The special eligibility requirement possession of the Degree of Bachelor of Sciences in a major subject area with relevance for biomedical sciences. This could include previous studies at faculties of medicine, technology/natural sciences, odontology or veterinary medicine. A major part of courses included in the Bachelor degree should be in subjects such as biochemistry, cell biology, molecular biology, genetics, gene technology, microbiology, physiology, immunology, histology, anatomy, and pathology.

Applicants must also have documented skills in English corresponding to the level of English in Swedish upper secondary education (English B). For applicants who have not studied in Swedish upper secondary education, skills in English are normally attested to by means of an international language test.

Intended learning outcomes

This course will give the participants theoretical and practical knowledge of common experimental techniques for biomedical research, and they will also be able to understand and discuss the advantages and limitations of each approach. The course is compulsory in semester one in Master's Programme in Experimental and Medical Biosciences.

After having completed the course, the student will be able to:

Knowledge and understanding

- Describe and explain theoretical principles of commonly used methods within biomedical research

Competence and skills

- Plan, perform and evaluate advanced experiments in life science laboratories
- Communicate scientific results orally and in written
- Demonstrate knowledge about rules for academic language and writing, including how to cite and refer to scientific reports

Judgement and approach

- Critically review and assess original scientific papers

Course content

- Cell culture
- Techniques in molecular biology
- Immunological techniques
- Safety regulations for laboratory work
- Academic writing

Teaching and working methods

General: Linköping University Master's Programme in Experimental and Medical Biosciences applies student-centered learning among which Problem Based Learning (PBL) is one pedagogical philosophy and method. To prepare the students for future employment, practical and experimental work in laboratory settings are important parts of the programme in courses as well as in individual projects.

Specific: In this course lectures, laboratory work, and seminars are used

Examination

Compulsory items

Active participation in the compulsory parts is necessary to pass the course, and assessment of them is carried out continuously. Compulsory parts in this course are: seminars and laboratory work.

Examination

Individual written examination.

Written report and oral presentation of laboratory work (group assignment with individual assessment).

Scope of re-examination

The extent of a re-examination shall be similar to the regular examination.

Change of examiners

Students who have failed the course or part of the course twice are entitled to request another examiner for the following examination occasion, unless specific reasons are present.

Registration for examination

The procedure for registration should be stated prior to the commencement of each course. In other respects, regulations concerning examination and examiners are applied in accordance with Linköping University policy.

Grades

Three-grade scale, U, G, VG

Other information

The planning and implementation of a course must take its starting point in the wording of the course plan. The course evaluation included in each course must therefore take up the question how well the course agrees with the course plan.

The course is carried out in such a way that both men's and women's experience and knowledge is made visible and developed.

If the course is withdrawn, or is subject to major changes, examinations according to this course plan are normally offered on a total of three occasions within one year, one of them in close connection to the first examination.

Department

Institutionen för biomedicinska och kliniska vetenskaper